

## REMARKS

Applicant respectfully requests re-consideration of the application in view of the amendments and the arguments presented below.

### Summary of Office Action

Claims 1-25 are pending.

Claims 1-2 and 4-10 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,944,213 B2 of Lee ("Lee").

Claims 1-2, 4-10, 11-25 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,295,343 B1 of Hjartarson, et al. ("Hjartarson").

Claim 3 was rejected under 35 U.S.C. § 103 as being unpatentable over Hjartarson in view of U.S. Patent No. 5,452,345 of Zhou ("Zhou")

Claims 23-25 were rejected under 35 U.S.C. § 103 as being unpatentable over Hjartarson in view of Zhou.

### Summary of Amendments

Claims 1 and 11 were amended. Applicant submits that the amendments to the claims are supported by the specification including the figures and the claims as originally filed. For example, support for the amendment to claims 1 and 11 can be found in Figure 5.

### Comment on Examiner's Remarks

Applicant notes that the previous objection to the drawings appears to have been withdrawn. The Examiner, however, has not affirmatively indicated whether the objection has been withdrawn.

The Examiner's remarks regarding applicant's prior arguments are noted. The undersigned apologizes for the error of referring to and arguing claims that were not pending in this application. The error was inadvertent.

## Response to 35 U.S.C. § 102 rejections

Claims 1-2 and 4-10 were rejected as being anticipated by each of Lee and Hjartarson. Claims 11-25 were rejected as being anticipated by Hjartarson.

With respect to Lee, the Examiner has stated:

Lee teaches a subscriber line interface circuit apparatus (transceiver) shown in Fig. 2, comprising:

an integrated circuit coupling at least one of an upstream and a downstream voice path for carrying voice signals to a subscriber line (290),

wherein the integrated circuit couples at least one of an upstream and a downstream data path for carrying data signals to the subscriber line [Figs. 1-4; col. 5, line 46 to col. 6, line 3; col. 8, lines 44-58; col. 10, lines 41-53; col. 10, line 40-58]; wherein the voice signals are communicated within a first frequency range (i.e., voiceband), wherein the data signals are communicated within a second frequency range (i.e., non-voiceband), wherein the first and second frequency ranges are distinct [Fig. 2].

(04/19/2006 Office Action, p. 5)

Lee's integrated circuit is located at the customer premises side of the communications, thus "downstream" corresponds to received signals and "upstream" corresponds to transmitted signals. Lee's integrated circuit couples a *downstream voice path* to the subscriber line through codec 212. Lee's integrated circuit couples a *downstream data path* to the subscriber line through receive block 240. Clearly Lee's integrated circuit provides distinct rather than a common downstream path for the downstream voice and data paths. Referring to Figure 2, Lee clearly has distinct couplings from the integrated circuit 218 to the subscriber line 290 for each of the voice communications and the data communications regardless of directionality (upstream/downstream).

Applicant submits that Lee does not teach or suggest an integrated circuit providing a common downstream path for any downstream voice and data paths to the subscriber line.

With respect to Hjartarson, the Examiner has stated in part:

Hjartarson, et al teach an integrated subscriber line interface circuit apparatus (transceiver) shown in Fig. 4, comprising:

...

a driver (416) combining a downstream voice signal in a first frequency range (i.e. voiceband range) and a downstream data signal in a second frequency range (i.e. a non-voiceband range) into a common downstream signal for a subscriber line (404) [Figs. 5-6]; col. 5, line 45 to col. 6, line 16]; and

receiver circuitry comprised of a feed resistor (418) coupled to provide an upstream data signal and an upstream voice signal from an upstream signal carried by the subscriber line [Figs. 6-9; col. 6, lines 17-24];

wherein the driver and receiver circuitry reside on a same integrated circuit (i.e., integrated line card 400)[Fig. 4; col. 5, lines 31-44; col. 7, lines 36-55]

(04/19/2006 Office Action, p. 5)

Applicant traverses the Examiner's characterization of Hjartarson. A *line card* is not an integrated circuit. There is no teaching that Hjartarson's driver and receiver circuitry as described by the Examiner reside on the same integrated circuit die. The term "integrated line card" cited by the Examiner refers to the integration of the POTS and xDSL functionality onto a single line card instead of the prior art practice of maintaining separate POTS and xDSL line cards.

(Hjartarson, col. 5, lines 31-44). *This is not equivalent to residing on the same integrated circuit die.* There is also no teaching that any of the circuitry external to Hjartarson's POTS codec 406 or DSL modem 408 resides on an integrated circuit.

Applicant submits that neither Lee nor Hjartarson teaches an integrated circuit providing a common downstream path for any downstream voice and data paths to the subscriber line.

In contrast, amended claim 1 includes the language:

1. A subscriber line transceiver apparatus, comprising:  
an integrated circuit coupling at least one of an upstream and a downstream voice path for carrying voice signals to a subscriber line, wherein the integrated circuit couples at least one of an upstream and a downstream data path for carrying data signals to the subscriber line, *wherein the integrated circuit provides a common downstream path for coupling any downstream voice and data paths to the subscriber line*, wherein the voice signals are communicated within a first frequency range, wherein the data signals are communicated within a second frequency range, wherein the first and second frequency ranges are distinct.

(Claim 1, as amended)(*emphasis added*)

Thus applicant submits claim 1 is not anticipated by Lee or Hjartarson. Given that claims 2-10 depend from claim 1, applicant submits claims 2-10 are likewise not anticipated by the cited references.

With respect to the rejection of claims 11-25, applicant disagrees with the Examiner's analogy of Hjartarson's feed resistor to either the claimed first or second receiver circuit. The purpose of Hjartarson's feed resistor 418 is to sense the current in the line for the purpose of synthesizing an impedance. (Hjartarson, col. 5, lines 31-44; col. 6, lines 17-24). Even if one accepted the Examiner's analogy, Hjartarson's feed resistor is not capable of eliminating signals outside of a first frequency range associated with voiceband communications. Similarly, Hjartarson's feed resistor is not capable of eliminating signals outside of a second frequency range associated with data communications.

Thus Hjartarson does not teach first and second receiver circuits *residing on the same integrated circuit die*, wherein the first receiver circuit eliminates any signals outside of a first frequency range associated with voiceband communications, wherein the second receiver circuit eliminates any signals outside of a second frequency range associated with data communications.

In contrast, claim 11 includes the language:

11. A subscriber line transceiver apparatus, comprising:  
    *a first receiver circuit for extracting upstream voice signals carried by a subscriber line, wherein the first receiver circuit substantially eliminates any signals outside of a first frequency range associated with voiceband communications to provide the upstream voice signals; and*  
    *a second receiver circuit for extracting upstream data signals from the subscriber line, wherein the second receiver circuit substantially eliminates any signals outside of a second frequency range associated with data communications to provide the upstream data signals, wherein the first and second receiver circuits reside on a same integrated circuit die, wherein the integrated circuit provides a common upstream path for receiving any upstream voice and data signals from the subscriber line.*

(Claim 11, as amended)(*emphasis added*)

Thus applicant submits claim 11 is not anticipated by Hjartarson. Given that claims 12-25 depend from claim 11, applicant submits claims 12-25 are likewise not anticipated by Hjartarson.

Applicant submits that the 35 U.S.C. § 102 rejections have been overcome.

### **Response to 35 U.S.C. § 103 rejections**

Claims 3 and 23-25 were rejected as being unpatentable over Hjartarson in view of Zhou.

Applicant submits that claims 3 and 23-25 are dependent claims and that Zhou does not make up for the deficiencies of the prior art presented above with respect to the 35 U.S.C. § 102 rejections.

Given that claims 2-10 and 12-25 depend from either claim 1 or claim 11, applicant submits claims 2-10 and 12-25 are likewise patentable over the cited references under 35 U.S.C. § 103.

Applicant submits the rejections under 35 U.S.C. § 103 have been overcome.

### **Conclusion**

In view of the arguments presented above, applicant respectfully submits the applicable rejections and objections have been overcome. Accordingly, claims 1-25 should be found to be in condition for allowance.

If there are any issues that can be resolved by telephone conference, the Examiner is respectfully requested to contact the undersigned at (512) 858-9910.

Respectfully submitted,

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